Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

PDDC - SEMESTER- III EXAMINATION - SUMMER 2015

Su	bject	t Code: X31103 Date:03/06/201	15
Tiı	-	t Name: Microcontroller and Interfacing 2.30pm-05.00pm Total Marks:	70
IIIS		Attempt all questions. Make suitable assumptions wherever necessary.	
Q.1	(a)	What is flag register? Explain 8051 Flag register and its practical implementation.	07
	(b)	Explain the 8051 architecture with block diagram.	07
Q.2	(a) (b)	How Embedded Microcontrollers are differing than Embedding Microprocessor? Explain with technical justification and application. Write an 8051 C program to calculate the checksum bye for given data. Six	07 07
	(1)	bytes of hexadecimal data: AAh, 72h, 3Ah, and 1Fh,45h,CDh. OR	07
	(b)	Explain PC and DPTR with their significance. Write program to interchange contents of PC and DPTR.	07
Q.3	(a)	What are the interrupts available in the 8051 microcontroller? Explain interrupt enable (IE) SFR and Interrupt priority (IP) SFR.	07
	(b)	Explain various modes of timers in 8051 and explain with assembly language programming auto reload mode.	07
0.3	(a)	OR Explain pin configuration with circuit diagram for port 0 and port 1.	07
Q.3	(a) (b)	Write an assembly language program to find the unknown frequency.	07
Q.4	(a) (b)	Why 8051 called embedded microcontroller? Give logical justification. Explain 8051 interfacing with ADC 0804 in self clocking mode. OR	07 07
Q.4	(a) (b)	Explain with necessary diagram, interfacing of 32K external ROM with 8051. Explain Serial data transmission modes in detail.	07 07
Q.5	(a)	Explain keyboard interfacing with 8051 and also draw flow chart for Detection and identification of key activation.	07
	(b)	Explain control circuitry between the output latch and port 0, port 1, port 3 and port 4.	07
0.5	(a)	OR Describe interfering of 9051 with DC meter and DWM	07
Q.5	(a) (b)	Describe interfacing of 8051 with DC motor and PWM. Explain two types of activation for external hardware interrupts in detail and also discuss the significance of Gate bit in TMOD register	07 07
